THE
EUGENICS REVIEW

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"*Eugenics is the science which deals with all influences that improve the inborn qualities of a race; also with those that develop them to the utmost advantage.*"—*Sir Francis Galton, 1904.*

NOTES OF THE QUARTER

Maternal Deprivation as a Cause of Problem Families

AN interesting and well-documented report entitled *Maternal Care and Mental Health,* by Dr. John Bowlby, has been produced in the "Monograph Series" of the World Health Organization.*

The central contention of the author, who is consultant in mental health to the World Health Organization, and also the director of the Child Guidance Department of the Tavistock Clinic in London, is that "maternal deprivation" occurring in early life produces serious effects on the subsequent mental health of the child. Among these effects may be counted the emotional or temperamental instability which, in a housewife and mother, are a causal factor in producing "problem" conditions. Though Dr. Bowlby clearly acknowledges the part played by hereditary factors in this unhappy process, he seems to regard them as less important than the experience of maternal deprivation. Thus, the case-worker is told that he must disabuse himself of the notion that, because of "bad heredity," the children of psychopathic parents are likely to turn out less favourably than those without such a handicap.

When simply stated, the case for the harmful effects of early maternal deprivation is strong and convincing. It is a matter of the most commonplace observation that animals and plants are, when very young, more vulnerable than when they are older and tougher. Frost or desiccation, damaging to fruit at an early stage of growth, will not harm it at a later stage. An injury to a seedling capable of producing permanent deformity will make no impression on the tree. The early vulnerability of the human embryo to the toxins of German measles is quickly outgrown. The newly born and, still more so, the premature child will succumb to infections which, later in life, are resisted or quickly thrown off. Similar considerations apply to the infant's need for the mother. Its physical helplessness has a counterpart in an emotional dependency to which, in the early stages of human evolution, violence was never done. During the hundred thousand or so years during which palæolithic man inhabited the earth there were no substitutes for breast-feeding. The child that was not breast-fed died. The abandoned and neglected child stood a poor chance. Homes for foundlings, waifs and strays are modern social institutions. The maternal tenderness evoked by the helplessness of the infant is necessary for normal mental development. Indeed, the mother's affection can be compared to the "organizers" of embryological growth which exert their effects for limited periods. "The period," writes Bowlby, "during which the child's undif-

* The report, published in 1951, was prepared on behalf of the World Health Organization as a contribution to the United Nations programme for the welfare of homeless children. It is No. 2 in the World Health "Monograph Series." H.M.S.O. Price 10s. A formal review appears later in this issue.

ferentiated psyche can respond to the influence of the maternal ' organizer ' is similarly limited. . . . If the first phase of development . . . is not satisfactorily completed during the first twelve months or so, there is the greatest difficulty in making it good : the character of the psychic tissues has become fixed. . . . The infant and young child should experience a warm, intimate and continuous relationship with its mother (or mother-substitute), in which both find satisfaction and enjoyment. The child needs to feel he is an object of pleasure and pride to his mother ; the mother needs to feel an expansion of her own personality in the personality of her child ; each needs to feel closely identified with the other."

Three broad phases are described through which this relationship passes :

(*a*) The phase during which the infant establishes a relation with an identified person—his mother ; this is normally achieved by five or six months of age.

(*b*) The phase during which he needs her as an ever-present companion, usually lasting till his third birthday.

(*c*) The phase during which he adjusts himself to occasional separations ; these, during the fourth and fifth year, may without harm last for a few days or weeks, and, after the seventh or eighth year, for twelve months or more.

The child which is separated from its mother during the critical years suffers in many ways. Its intelligence develops slowly, as shown by the comparisons between children reared in institutions and children, alike in other respects, reared at home. But the most serious damage is done to the emotions. The typically deprived child grows up incapable of feeling genuine affection or of forming durable attachments. Its relationships are superficial ; it has no capacity to care for people or to make true friends ; it is inaccessible in ways that may be found exasperating by those anxious to help ; it shows no emotional response in conditions when such response is normal ; it is deceitful, evasive, and given to stealing ; it cannot concentrate on its school work, and is therefore backward. An American observer (D. Levy, 1934) describes the deprived child as making excessive demands for food, money and privileges.

This emotional incapacity or apathy, the consequence of affective starvation in infancy, can impair the grown woman's capacity to show affection to her own children, who are in turn starved. There results a " social succession " of emotional disabilities. " The origin," Bowlby writes, " of adults being unable to make effective family relationships is not infrequently itself the result of their having been deprived of a normal home life in their own childhood. Thus the investigator is confronted with a self-perpetuating social circle in which children who are deprived of a normal home life grow up into parents unable to provide a normal home life for their children, thus leading to another generation of adults unable to do the same for theirs."

These conclusions about the effects of maternal deprivation are applied to the genesis of the problem family. The writings of C. Fraser Brockington, S. W. Savage, R. C. Wofinden and A. Querido are mentioned. Though Bowlby regards it as demonstrated that maternal care in infancy and early childhood is essential for mental health—indeed the discovery is declared to be comparable in importance to that of the rôle of vitamins in physical health—there is, he says, need for further research. Two matters especially need to be clarified, namely, " the lengths of the safety margin (*a*) during which deprivation can, if absolutely necessary, be permitted, and (*b*) within which there is time to make good damage already done." Such research should not be difficult. The physical separation of the child from its mother in early infancy is a factual occurrence which either did or did not take place. Inquiries could readily be made from both ends. Children who are known to have been separated from their mothers during the critical period could be followed up and their powers of emotional adjustment assessed ; and adolescents in whom these powers are conspicuously defective might or might not provide

evidence of early separations. Bowlby reviews past studies of both these kinds.

But unfortunately the term maternal deprivation turns out to include much more than a mere physical separation of which the occurrence can easily be established. Three conditions can cause it: the natural home may never be established; the natural home may be broken up and therefore not functioning (here would be included most separations in early infancy involving a change in an "identified person," i.e. the mother or mother-substitute); and lastly the natural home may be intact, but not functioning effectively. Indeed the malfunctioning of an existent home is, we are told, the prevalent single cause of maternal deprivation to-day. Though its effects may not be so serious as those following physical separation, they are, in this country at least, more commonly found. Conditions which are in part causes and in part consequences of such malfunctioning are unemployment of the breadwinner with ensuing poverty, the chronic illness or incapacity of a parent and the instability or psychopathy of a parent. These causes are listed on page 73 of Dr. Bowlby's report. But a table on page 171, which also lists the causes of children being deprived of a normal home life, includes another factor, namely, the maladjustment of the child. There is here some danger of a circular argument. The effects of maternal deprivation on mental health are no longer testable by the occurrence or non-occurrence of a historical event, namely, separation in early infancy; causes are found in the psychopathy of parents and even in maladjustments of children which are not so much historical events as assessable features. The reader may ask if maladjustments of children are to be taken as causes or effects. They are apparently treated as both. Maladjustment can obviously be a cause of a child being deprived of a normal home life if it becomes the cause of its being removed from its home. But if Dr. Bowlby's argument is not circular such a child's maladjustment must, prior to its removal from home, have been caused by events outside itself. If the psychopathy of parents is included among these events, investigation becomes complicated. How is psychopathy assessed? There is danger of an over-subtle investigator distinguishing between an overt form of psychopathy, which is in various ways obvious, and a covert form of which the existence can only be inferred. If the maladjustment of a child is treated as constituting evidence of a covert form of psychopathy in the parent, and if such psychopathy is held to be a cause of maternal deprivation, then maternal deprivation will automatically be discerned as a cause of every case of maladjustment. Then indeed will the case seem to have been abundantly proved.

Dr. Bowlby's remedies consist mainly in measures to prevent the separation of child from mother and the changing of an "identified person" (mother or mother-substitute) during the first five years of life. But if the process of "social succession" in fact operates in the manner described in the above quotation, and if Goldfarb, on whose work much reliance is placed, is right in saying that "mothering is almost useless if delayed after the age of two and a half," then the presence of psychopathy in an affectionless mother becomes a most intractable cause of maternal deprivation. The "self-perpetuating social circle," of affectionless mother—affectionless child growing up into another affectionless mother—another affectionless child, becomes difficult to break. There seems, indeed, to be but one way to break it, namely, by aiding the affectionless mother to stop having children which she does not want. When the context is a problem family wherein numerous children and child neglect are prominent features, this is surely the most economical as well as the most humane thing to do. This solution, unmentioned by Dr. Bowlby, is no less appropriate if the disasters are caused by a social than by a genetic sequence; or, as almost invariably occurs, when both social and genetic causes are simultaneously at work. Indeed, the author writes (page 14): "All those subscribing to the views set out in this report believe that in the final analysis hereditary factors will be shown also to play a part and that the greatest scientific

progress will be made when the interaction of the two can be studied."

Dr. Bowlby's important and well-written report should be studied by eugenists.

Our Population, 1851-1951

SIR CHARLES F. ARDEN-CLOSE sent us this comment:

The recently issued preliminary report on the results of the census enables us to make a comparison of our present demographic state with that of a century ago. First of all we learn that the population of England and Wales, on April 8th last, was 43·74 millions; and in this total the number of females exceeded the number of males by 1·7 millions. The population of Scotland on that date was a little over 5 millions, so that the number of people in Great Britain was slightly under 49 millions. If we add the number in Northern Ireland we get a grand total of more than 50 millions for the United Kingdom.

The Registrar-General points out that there was an increase of about 9½ per cent over the 1931 total. He makes the important comment that the population continues to grow and that "there has been little change in the successive rates of increase for the past forty years," and that there is no sign of an early approach to a maximum. In fact, the rather loud prophecies of a probable catastrophic fall in our numbers have been proved to be wrong.

As we are now engaged in celebrating the centenary of 1851, it may be as well to remind ourselves that, in that year, a century ago, England and Wales contained just under 18 million people, with a female surplus of 365,000. Our total numbers have multiplied nearly two and a half times in that period. There are now in this country 750 persons to each square mile, so that each individual might be allotted a piece of ground somewhat over sixty yards square—not much to boast about! This very high density is a striking, and, in the opinion of many, an unfortunate, condition. The Registrar-General remarks that this density, "with a possible exception in the case of the Netherlands, is far higher than that of nearly every other country of the world, and is several times as high as that of most of them." He talks of this outstanding high concentration of people as a feature which must always be present in the minds of those who consider population problems.

Our shortage of land, or, more correctly, our surplus of people, affects the lives of all of us, particularly in one respect. We do not produce at home nearly enough of the food we eat. The latest official figure is that our home-produced food amounts to 40 per cent of the total that we eat and we have to import 60 per cent. Taking the above census figure for the population of England and Wales, it follows that we produce enough food for about 18 millions of people and that about 25 millions are fed from abroad. We all know to what straits we are reduced to find the wherewithal to pay for this. Or, we may put the matter thus: we grow just about enough food to supply the wants of the population of 1851. There were then more than two acres available for each individual.

To go back to the census, it is stated in the report that, during the twenty years between 1931 and 1951, there were born in England and Wales rather more than 13 million babies. A small exercise in arithmetic will show that, during that twenty years, on an average, five babies were born every four minutes. During the same period nearly one person died every minute. The excess of births over deaths, plus some considerable immigration, gave us the net increase in our numbers of 3·8 millions.

There is a bright side to the picture, and that is we are all living longer than used to be the case. The expectation of life that a baby has at birth is now no less than sixty-nine years, whereas in 1851 it was about forty-two years. We live longer, and therefore there are more of us, and this is one of the causes of our swollen population. Since we live longer our average age is higher than it used to be. In 1851 it was about twenty-six years; now it is over thirty-five years. Perhaps it might be reasonable to call thirty-five years "middle age." We might properly expect men and women, who are healthier

than they used to be all up the scale of age, to work to higher ages. The ages for retirement should be increased. People are usually happier when they have work to do.

Blood Groups and Race

THE best way of expressing the inborn differences between races is in terms of differences in the frequencies of genetic factors. For this purpose common genes are more useful than rare ones. While, in general, progress in identifying common genes in man has been slow, the genes which control the blood groups are a happy exception. They are admirably suited to racial studies because the relationship between the genes and the individual's blood types appear to be unusually direct, and is, as far as is known, uninfluenced by variations in nurture. In addition most of the differences in blood type have no known selective value, and, in large populations, are likely to remain more or less unchanged in the absence of migration.

While it is unlikely that particular blood types were ever confined to original "pure races," it is probable that, in the early small and isolated human populations, marked differences in the frequencies of various blood group genes would arise from chance gene loss and perhaps from unknown selective advantages of some of the blood types. Fraser Roberts[1] has found marked differences between small populations of the size of a village in the North of England, though large areas are much more homogeneous. Blood gene frequency studies then are likely to tell us something of the genetic relationships of different races and of human migrations. Several analyses have already been made and an excellent account has been published by Boyd,[2] *Genetics and the Races of Man.* Naturally each additional new blood type that is discovered increases the worth of serological studies. Most information is available for the A, B, O groups, on account of their importance in blood-transfusion work and because they were the first to be discovered; but reliance on these alone would give some ridiculous relationships, for example, Labrador Eskimos and Australian Aboriginals. Within Europe the Sardinians, the Basques and the North Atlantic islanders are not unlike in their A, B, O frequencies, but are clearly distinguished by very different frequencies of the Rhesus blood group genes. A certain amount of information is available, too, for the genes for the M and N blood types.

Boyd proposes the following classification of mankind based on these blood types:

1. Early European (represented most closely by the Basques).
2. Caucasoid.
3. Negroid.
4. Mongoloid.
5. American Indian.
6. Australoid.

It will be seen that these agree well with the divisions based on the conventional criteria of physical anthropology; though it is striking how different are the blood group genes of the American Indians and the Mongolian peoples from whom they were derived. When information comes in of the frequencies in different populations of the six further series of genes controlling blood type which are already known it will be possible to elaborate the picture further. Studying the reports from the Mediterranean area in greater detail Mourant[3] has shown that in addition to an Early European component represented by the Basques and a North European component (corresponding to Boyd's Caucasoid group) there must have been a third component corresponding to the present-day Sardinians. With these three components and Negro admixture in some cases it is possible to account for the known blood groups of the peoples round the Mediterranean. An example of a more detailed and small-scale study still is that of Watkin[4] of the blood groups in Wales. The people of North Wales, but not those of South Wales, are sharply distinct from the English. The Scandinavian settlements in the Pembroke peninsula and the mouth of the

[1] 1951. *Man*, 51, 160.
[2] 1950. Blackwell Scientific Publications, Oxford.
[3] 1950. Cold Spring Harbor Symposia on Quantitative Biology, Vol. XV.
[4] 1951. *Man*, 51, 161.

Dee can be recognized from the blood group frequencies. The peoples of the Black Mountains of Carmarthen, already distinguished by Fleure as a region of emigration without immigration containing a distinct and long-established physical type, have a distinctive blood gene frequency with a relatively high incidence of B; in this respect these ancient Welshmen differ from Boyd's hypothetical Early European.

The work of mapping the blood group genes, elucidating from them racial relationships and correlating the results with archæological and historical evidence will keep enthusiasts hard at work for a generation or more. Studies of this kind will pave the way for an impartial study of the racial distribution of genes of perhaps greater eugenic importance.

"Population Index"

By courtesy of the editors of *Population Index* we reproduce here the diagram shown on the back page of the July 1951 number of that journal, published by the Office of Population Research, Princeton University, and the Population Association of America Inc.